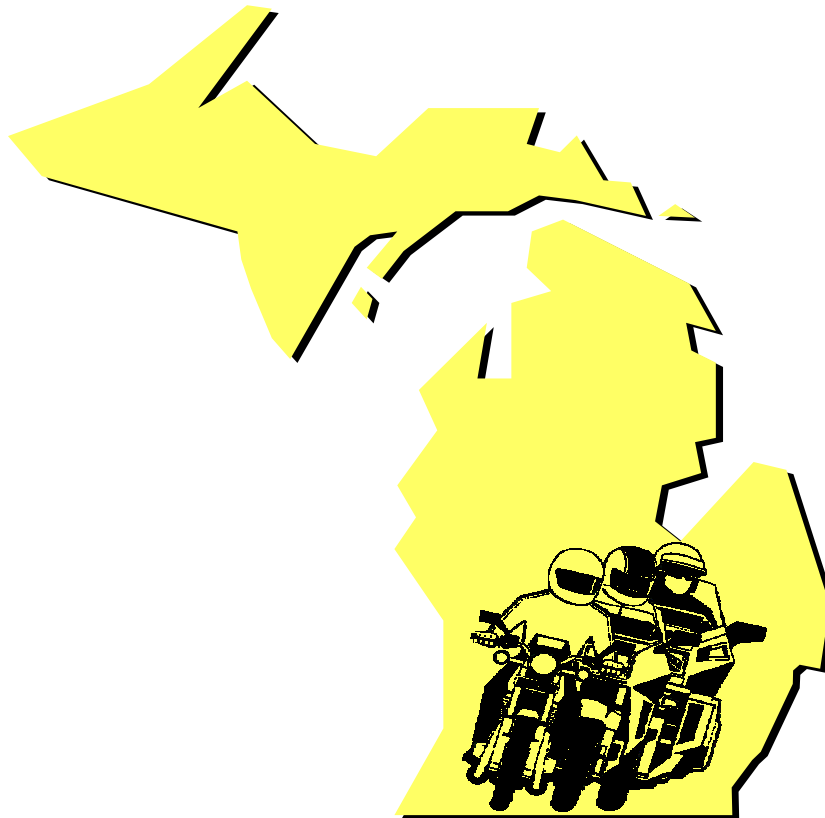


# Michigan Motorcycle Safety Action Plan

## Governor's Traffic Safety Advisory Commission

### Member agencies:

Michigan Department of Transportation  
Office of Highway Safety Planning  
Michigan Department of State  
Michigan State Police  
Office of Services to the Aging  
Michigan Department of Education  
Michigan Department of Community Health



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## **Introduction**

In 1998, the American Association of State Highway and Transportation Officials (AASHTO) approved its Strategic Highway Safety Plan, which was developed by the AASHTO Standing Committee for Highway Traffic Safety with the assistance of the Federal Highway Administration, the National Highway Traffic Safety Administration, and the Transportation Research Board Committee on Transportation Safety Management. The plan includes strategies in 22 key emphasis areas that affect highway safety. The plan's goal is to reduce the annual number of highway deaths by 5,000 to 7,000. Each of the 22 emphasis areas includes strategies and an outline of what is needed to implement each strategy.

NCHRP Project 17-18(3) is developing a series of guides to assist state and local agencies in reducing injuries and fatalities in targeted areas. The guides correspond to the emphasis areas outlined in the AASHTO Strategic Highway Safety Plan. Each guide includes a brief introduction, a general description of the problem, the strategies/countermeasures to address the problem, and a model implementation process.

The Michigan Motorcycle Rider and Education Action Plan was created by using the above documents and resources as a base foundation.

## **Action Plan Development**

A Strategic Highway Safety Plan should define a system, organization, and process for managing the attributes of the road, the rider, and the vehicle to achieve the highest level of highway safety by integrating the work of disciplines and agencies involved. These disciplines include the planning, design, construction, operation, and maintenance of the roadway infrastructure (engineering); injury prevention and control (emergency response services), health education; and those disciplines involved in modifying road user behaviors (education and enforcement).

The development of the strategic highway safety plan was commissioned by Michigan's Governor's Traffic Safety Advisory Commission (GTSAC) in October 2004. The GTSAC consists of the Governor (or a designee), the Directors (or their designees) of the Departments of Community Health, Education, State, State Police, and Transportation, the Office of Highway Safety Planning, the Office of Services to the Aging, and three local representatives from the county, city, and township level.

Motorcycle Rider and education issues were identified as an emphasis area in the both AASHTO and GTSAC Strategic Highway Safety Plans. A sub-committee consisting of a multi-disciplinary group of agencies and disciplines was formed and conducted a kick off meeting on May 3, 2005.

## The Issue: Motorcycle Rider Education and Safety

There have been little public education/awareness efforts to prevent crashes. Knowing how to prevent crashes will offer a method to reduce crashes and fatalities.

In 2004, Michigan's continued fatal crash reductions (an eight percent decrease since 1997) contributed to a record low fatality rate of 1.14 per 100 million Vehicle Miles Traveled (VMT), well below the 1.50 national average. Despite this, there was a 29 percent increase in fatal motorcycle crashes from 1997 to 2004.

An examination of NHTSA's final Fatality Analysis Reporting System (FARS) file, 2004 FARS annual report and data from the Michigan State Police reveals the following:

Year	2005	2004	2003	2002	2001	2000	1999	1998	1997
Motorcycle Crashes	3504	3276	3187	3030	3228	3180	2820	2997	2543
Motorcycle Injuries	3053	2679	2644	2470	2593	2541	2383	2238	2611
Total Fatalities	1129	1159	1283	1277	1328	1382	1382	1367	1446
Motorcycle-Related	122	79	76	82	90	78	77	64	54
% Motorcycle-Related Fatalities (of all motorcycle crashes)	10.8%	6.8%	5.9%	6.8%	7.6%	6.1%	6.2%	4.0%	4.4%

Motorcycle involvement in traffic crashes increased from 2,820 to 3,276 from 1999 to 2004. Additionally, fatalities as a percentage of all motorcycle crashes increased slightly in 2004, and the general trend represents a collective increase over the last eight years for which data are available. Studies of Michigan's motorcycle-related traffic fatalities indicate that unendorsed drivers are over-represented. A recent trend also shows an increase in fatalities among motorcyclists 40 years and older.

The Hurt Report published in 1981 identified several factors involved in motorcycle crashes. A comprehensive study of Michigan's serious motorcycle crashes shows that nearly thirty years later, those same factors are still present in today's crashes. Successfully reducing Michigan's motorcycle crashes will require serious, dedicated, and undoubtedly controversial measures.

Enforcement, education, public information, judicial, legislative, engineering/roadway management and program administration will be emphasized in the corresponding strategies.

Michigan should have a comprehensive program to promote motorcycle safety and prevent motorcycle crashes and related injuries. Some of the ways to accomplish this are:

- Expand the availability of motorcycle rider and safety education courses through public and private sponsors and increase public awareness.
- Implement the motorcycle safety assessment program.
- Decrease the number of unendorsed motorcycles.
- Maintain helmet laws and enforce the use of FMVSS 218 compliant helmets.

# Michigan Motorcycle Safety Strategies

*This action plan suggests several strategies for addressing the problems. These strategies combine the elements of enforcement, education, and engineering. The strategies are suggested recognizing that, with few exceptions, programs that depend upon only one of these elements are not likely to be successful.*

## ENFORCEMENT

### Objective:

To deter motorcycle riders from riding without a motorcycle endorsement, proper protective equipment, and from riding while under the influence drugs and alcohol.

### Strategies:

- Department of State Police Traffic Services Section will provide education to law enforcement, as it relates to motorcycle safety and licensing. [NT]
- Recommend the development of a method to readily identify a rider that does not possess a motorcycle endorsement. This could be accomplished with the creation of an endorsement decal "CY" applied to the rider's helmet. New applicants and license renewal would obtain a decal with each application. Display on the riders' helmet would be mandatory. [LT]
- Recommend the requirement that the registered owner to possess a motorcycle endorsement for all motorcycle registrations. Include waiver for purchasers who certify that they will not operate the motorcycle. [LT]
- Continued/updated training for law enforcement officers in detecting impaired riders. Include "Knowing What to Look" for in regular training and in-services. [NT – OHSP]
- Recommend that the Office of Highway Safety Planning (OHSP) and MDOS produce informational materials dealing with impaired riders of which the recent Knowing What to Look For video is a good example. [NT]
- Integrate motorcycle safety with other highway safety programs and partners. [NT – GTSAC]
- Enforce the use of FMVSS 218 compliant helmets. [NT – MSP]

- Recommend the enhancement of the UD-10 vehicle crash form to accurately report bodily injury location and severity. [NT-MSP/CJIC]

**Resources:**

Department of State  
Michigan Legislature  
Michigan State Police  
Judges  
Magistrates  
Prosecutors

## EDUCATION

### Objectives:

Educate motorcycle riders in the necessary crash avoidance techniques.

Increase motorcycle awareness of the driving public.

Evaluate the effectiveness and impact of rider training in reducing motorcycle fatalities and injuries.

Prioritize relevant Motorcycle Rider & Education Assessment recommendations.

### Strategies:

- Encourage all new applicants for a motorcycle endorsement regardless of age, to attend and pass at a minimum, the BRC or its equivalent. [LT]
- Include safety and awareness questions on driver's license testing. [NT – DOS]
- Publicize information on how one can locate and register for a motorcycle safety course. [NT – DOS/OHSP]
- Enhance motorcycle awareness information in Secretary of State branch-offices. [NT – DOS]
- Educate the rider on the importance of motorcycle conspicuity. [LT]
- Include a motorcycle awareness class/module as part of driver's education segment 2 and for classes offered to elderly driver commissions, senior centers, senior groups, community centers, fraternal organizations, church groups, motorcycle groups (those with out an organized program), provided by "trained presenters" from different motorcycle associations/clubs. [LT]
- Develop a plan to integrate motorist awareness efforts into other sections of the State of Michigan Strategic Highway Safety Plan. [NT – GTSAC]
- Request grant funds or earmark a portion of the Motorcycle Safety Education fund and other funding sources for continued PI&E. [NT – OHSP/DOS]
- Recommend a study be conducted to evaluate the effectiveness of current motorcycle rider training programs. [NT/LT]

**Resources:**

Michigan Office of Highway Safety Planning

Michigan Department of State

Schoolcraft College Consortium

Media

Michigan Department of Education

Senior and elderly mobility groups

Motorcycle riding instructors

Insurance Companies

Michigan State University



## Public Information

### Objective:

Raise motorcycle awareness of the driving public, reducing the number of motorcycle crashes and fatalities.

Increase motorcycle rider awareness of the value of taking a riding course at any point in their riding lifetime.

Evaluate the effectiveness of awareness programs in reducing the motorcycle fatalities and injuries.

Decrease number of unendorsed motorcycle riders.

### Strategies:

- Include information at all welcome centers, visitor centers and rest areas. [NT – OHSP/MDOT ]
- Incorporate impaired riding and protective equipment themes in to the “You Drink & Drive. You Lose.” and “Click It or Ticket” mobilizations. [NT – OHSP]
- Recruit auto insurance companies to include motorcycle awareness information in premium notices and invoices to their members. [LT]
- Include mention of conspicuity in Intersection Safety, Elderly Mobility and Safety, Commercial Vehicle Safety and Drivers Age 24 and Younger emphasis. [LT]
- Provide copies of MSF’s Common Road or similar current, quality, motorcycle safety and awareness videos to distribute to all driver education classes. Play the video on television monitors at licensing centers. [NT – DOS]
- Encourage the use of proper clothing including gloves, boots, long pants, a durable long-sleeved jacket, eye and face protection, and an approved helmet. [NT – DOS/OHSP]
- Increase animal collision awareness. [NT – Deer Crash Coalition]

### Resources:

- Michigan Office of Highway Safety Planning
- Michigan Department of State
- Schoolcraft College Consortium
- Media
- Michigan Department of Education
- Senior and elderly mobility groups
- Motorcycle riding instructors
- Insurance companies

## JUDICIAL

### **Objectives:**

Establish a close working relationship with the judiciary and encourage judges, magistrates and prosecutors to use alternatives such as traffic school when sentencing offenders.

### **Strategies:**

- Designate part of fines assessed into a motorcycle awareness program. [LT]
- Judges, Magistrates and prosecutors do not receive any specialized training for addressing the issue of impaired motorcyclists and other motorcycle related cases. Include training for these groups. [LT]
- Promote mandatory attendance and successful completion of at least a state approved motorcycle safety class as an alternative to jail/fines for those offenders convicted for riding with no endorsement. [LT]
- Require each rider involved in a motorcycle crash where they were cited for an at-fault violation to attend and pass at a minimum, the BRC or its equivalent. [LT]
- Progressive penalties for repeat offenders convicted of riding without proper endorsement or helmet. [LT]

### **Resources:**

Michigan Motorcycle Safety & Awareness Program  
 Michigan Legislature  
 Michigan State Police  
 Michigan Office of Highway Safety Planning  
 Judges  
 Magistrates  
 Prosecutors

## ENGINEERING/ROADWAY MANAGEMENT

### Objective:

Evaluate the potential impact on motorcyclists during the design, construction, and maintenance of all roadways. Consider the effects on motorcycle riders during all operations of the transportation infrastructure.

### Strategies:

The engineering of roadways, bridges, and all appurtenances have a significant impact on the safety of motorcyclists. Properly engineered roadways can minimize hazards to motorcyclists. The evaluations for possible future applications of these engineering decisions that may affect motorcyclists the most include the following:

- Roadway surface conditions and maintenance activities [LT]
  - Overband crack-sealing may reduce motorcycle tire friction. Recommend evaluating this potential, and evaluate a treatment to the surface of the overband crack-sealing to increase friction.
  - Longitudinal joint sealing on asphalt pavements may need similar treatment as overband crack-sealing.
  - Motorcycle tire instability may result from some patterns of longitudinal grinding on concrete pavement.
  - Calcium chloride and brine used for dust control may cause friction reduction for motorcycles on concrete and HMA surfaces.
  - Some types of pavement markings may create low friction for motorcycle tires, especially on wide stop bars at intersections.
  - Manhole elevation setting and cover friction issues.
  - Signing for HMA or concrete pavement sections that transition to gravel pavement sections.
- Roadway geometrics [LT]
  - Evaluate standard roadway geometric practices for their impacts on the behavior of motorcycles.
- Construction and maintenance work zones [NT/MDOT]
  - Work zone details may not always incorporate the effects on motorcycles. The following are some possible examples: edge drops on the shoulders, uneven pavement joints during HMA placement, etc.
  - If possible, propose alternate routes for motorcyclists to avoid work zones.
  - Uneven pavement or edge differentials may affect motorcycles differently than cars and trucks. Additional signing for these conditions may be used to warn motorcyclists.
  - Calcium chloride and brine used for dust control may cause friction reduction for motorcycles on concrete and HMA surfaces.

- Features designed for cars and trucks, which includes rumble strips, signal loops, guardrail, crash attenuators, etc. [NT/MDOT]
  - Sign for center line rumble strips.
  - Adjust sensitivity for signal loops.
  - Provide a gap for a motorcycle's wheel path on mainline transverse rumble strips.

#### Funding:

The initiatives listed above involve providing highway engineers with guidelines pertaining to motorcycle issues on the roadway. Improving motorcyclists' safety on Michigan's roadways will not necessarily involve increase funding, but will involve increasing the awareness of the transportation engineering community.

#### **Resources:**

Michigan Department of Transportation: [www.michigan.gov/mdot](http://www.michigan.gov/mdot)

Office of Highway Safety Planning: [www.michigan.gov/ohsp](http://www.michigan.gov/ohsp)

University of Michigan Transportation Research Institute: <http://www.umtri.umich.edu/>

## LEGISLATIVE

### Objective:

Encourage the Michigan Legislature to introduce legislation aimed at reducing motorcycle crashes and requiring a higher skill level prior to operating a motorcycle.

### Strategies:

- Revise the current operator licensing system for motorcycles. [LT]
  - TIP Restrictions should include .00 BAC levels.
  - Require rider to be crash and violation free during TIP period
  - Limit TIP to 90 day period, with one additional renewal.
- Establish alternatives such as BRC traffic school for sentencing of convicted traffic offenders in lieu of jail/fine. [LT]
- Establish enhanced penalties for persons convicted of repeat violations for no motorcycle endorsement. [LT]
- Explore legislative options to increase endorsement levels, including mandatory suspensions of endorsement until satisfactory completion of a BRC or greater for each at-fault crash. [LT]
- Recommend the requirement that the registered owner to possess a motorcycle endorsement for all motorcycle registrations. Include waiver for purchasers who certify that they will not operate the motorcycle. [LT]
- Investigate feasibility of implementing a graduated rider endorsement program. [LT]
- Require daytime headlight use for all motorcycles and encourage riders to use advances in technology such as headlight modulators. [LT]
- Maintain helmet laws and the use of FMVSS 218 compliant helmets. [LT]

### Resources:

Michigan Legislature  
Michigan State Police  
Michigan Office of Highway Safety Planning  
Michigan Department of State

## Program Administration

### Objective:

Expand the availability of motorcycle rider and safety education courses through public and private sponsors.

Decrease the number of unendorsed motorcyclists.

### Strategies:

- Train more MSF certified RiderCoaches. Allow RiderCoach training to be offered through educational institutions as part of their continuing education offerings, funded by individual tuition and not by the State's Motorcycle Safety Education Fund. This would result in increased availability of instructor training options, serious commitment of coach candidates, and an opportunity to re-focus the State's funding to the motorcycle rider. [LT]
- Allow public training sites to offer non-grant-funded classes once grant funding is used up for the year. Not only would this help to service the huge demand in many areas of Michigan, but it would also make it more fiscally responsible to offer safety education classes targeted for groups with special learning needs. [LT]
- Schedule and publicize "Unendorsed Rider Days" throughout the State, where unendorsed riders can come to take the MSF motorcycle course. Options, depending on host and site, are limited only by the imagination and resources, but could be: take the class only; take the class and have SOS mobile unit/staff on hand to complete endorsement process; add a motorcycle safety awareness "festival" piece; etc. [LT]
- Expand training availability by offering more available courses in both the public and private sector. [NT – DOS]
- Update dilapidated motorcycle inventory offered in the grant programs. [NT – DOS/OHSP]
- Provide statewide ongoing professional development training for all Motorcycle Safety Foundation certified ridercoaches. [NT – OHSP/DOS]

## ACRONYMS

AAA	American Automobile Association
AASHTO	American Association of State Highway and Transportation Officials
CJIC	Criminal Justice Information Center
FHWA	Federal Highway Administration
GTSAC	Governor's Traffic Safety Advisory Commission
GVWR	Gross Vehicle Weight Rating
ITS	Intelligent Traffic System
IVI	Intelligent Vehicle Initiative
LT	Long Term
MDE	Michigan Department of Education
MDOS	Michigan Department of State
MDOT	Michigan Department of Transportation
MMSAP	Michigan Motorcycle Safety & Awareness Program
MSF	Motorcycle Safety Foundation
NCHRP	National Cooperative Highway Research Program
NHI	National Highway Institute
NT	Near Term
OHSP	Office of Highway Safety Planning
PI&E	Public Information and Education
PSA	Public Service Announcement

*\*This is not a complete list*

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